

**ABBREVIATIONS AND ACRONYMS**

AAQS	Ambient Air Quality Standards
ABAG	Association of Bay Area Governments
ACDEH	Alameda County Department of Environmental Health
ACE	Altamont Commuter Express
ACGIH	American Conference of Governmental Industrial Hygienists
ACHCS	Alameda County Health Care Services
ACHP	Advisory Council on Historic Preservation
ACL	Ambient concentration limit
ACM	Asbestos containing materials
AD	Associate Director
ADT	Average daily traffic
AEA	<i>Atomic Energy Act</i>
AET	Applied Energy Technologies
AIHA	American Industrial Hygiene Association
ALARA	As low as reasonably achievable
AMP	Advanced Materials Program
ANSI	American National Standards Institute
APDS	Autonomous Pathogen Detection System
APE	Area of potential effect
AQCR	Air Quality Control Region
ARES	Amateur Radio Emergency Services
ARF	Airborne release fraction
ARM	Assembly, resupply, and maintenance
ARO	Assurance Review Office
ARPA	<i>Archaeological Resources Protection Act</i>
ASCI	Advanced Simulation and Computing Initiative
ASD	Atmospheric Sciences Division
ATA	Advanced Test Accelerator
ATSDR	Agency for Toxic Substances and Disease Registry
AVLIS	Advanced Vapor Laser Isotope Separation

AWQC	Ambient water quality criteria
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BART	Bay Area Rapid Transit
BASIS	Biological Aerosol Sentry and Information System
BBRP	Biology and Biotechnology Research Program
BCP	Business commercial park
BDRP	Biological Defense Research Program
BEIR	Biological effects of ionization
BMP	Best management practice
BSL	BioSafety Level
CAA	<i>Clean Air Act</i>
CAAQS	California Ambient Air Quality Standards
CAIRS	Computerized Accident/Incident Reporting System
California EPA	California Environmental Protection Agency
CALSTAR	California Shock Trauma Air Rescue
CAMS	Center for Accelerator Mass Spectrometry
CAR	Computing Applications and Research
CARB	California Air Resources Board
CBD	Chronic beryllium disease
CBNP	Chemical and Biological National Security
CCAA	<i>California Clean Air Act</i>
CCB	Change Control Board
CCF	Central Characterization Facility
CCP	Central Characterization Project
CCR	<i>California Code of Regulations</i>
CD	Critical decision
CDC	Centers for Disease Control
CDFG	California Department of Fish and Game
CEDD	California Employment Development Department
CEDE	Committed effective dose equivalent
CEPRC	Chemical Emergency Planning and Response Commission

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CEQ	Council on Environmental Quality
CEQA	<i>California Environmental Quality Act</i> of 1970
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
CFF	Contained Firing Facility
CFR	<i>Code of Federal Regulations</i>
CHEW	Chemical Exchange Warehouse
CHP	California Highway Patrol
CMGRAMS or CMG	Controlled materials group
CMS	Chemistry and Materials Science
CNDDB	California Natural Diversity Data Base
CNEL	Community noise equivalent level
CNP	Computer numerical control
CNPS	California Native Plant Society
CRADA	Cooperative research and development agreements
CRD	Catalytic reductive dehalogenation
CSO	Council on Strategic Operations
CSU	Container storage unit
CT	California toxic
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	<i>Clean Water Act</i>
CWG	Community Work Group
CWSC	California Water Service Company
CY	Calendar year
D&D	Decontamination and decommissioning
DARHT	Dual Axis Radiographic Hydrodynamic Test
dB	Decibel
dB(A)	A-weighted decibel
DC	Direct current
DDSO	Deputy Director for Strategic Operations
DEAR	Department of Energy Acquisition Regulation
DHS	Department of Health Services
DLM	Designated level methodology

DNA	Deoxyribonucleic acid
DNFSB	Defense Nuclear Facility Safety Board
DNT	Defense and Nuclear Technologies
DoD	United States Department of Defense
DOE	United States Department of Energy
DOF	California Department of Finance
DOR	Direct oxygen reduction
DOT	United States Department of Transportation
DP	Office of Defense Programs
DR	Damage ratio
DRB	Drainage Retention Basin
DTSC	Department of Toxic Substances Control
DWTF	Decontamination and Waste Treatment Facility
EA	Environmental assessment
EBIT	Electron beam ion trap
ECAP	East (Alameda) County Area Plan
ECC	Emergency communications center
EDD	California Employment Development Department
EDE	Effective dose equivalent
EDO	Environmental Duty Officer
EDS	Engineering Demonstration System
EED	Energy and Environment Directorate
EIR	Environmental impact report
EIS	Environmental impact statement
EMPC	Energetic Material Processing Center
EMRL	Environmental Monitoring Radiation Laboratory
EMS	Environmental Management System
EO	Executive Order
EOC	Emergency Operations Center
EPA	United States Environmental Protection Agency
EPCRA	<i>Emergency Planning and Community Right-to-Know Act of 1986</i>
EPD	Environmental Protection Department

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EPL	Effluent pollutant limit
ERD	Environmental Restoration Division
ERPG	Emergency response planning guideline
ES&H	Environment, Safety, and Health
ES&H WG	ES&H Working Group
EST	Environmental support team
EUV	Extreme ultraviolet
EUVL	Extreme ultraviolet lithography
EWSF	Explosives Waste Storage Facility
EWTF	Explosives Waste Treatment Facility
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
FESSP	Fission Energy and Systems Safety Program
FFA	Federal Facility Agreement
FFCA	<i>Federal Facilities Compliance Act</i>
FHC	Fuel hydrocarbon
FIRP	Facility Infrastructure Recapitalization Project
FONSI	Finding of no significant impact
FPOC	Facility point of contact
FR	<i>Federal Register</i>
FR/O	Federal Reserve/Open Space
Freon 11	Trichlorofluoromethane
Freon 113	Trichlorotrifluoroethane
FSP	Facility safety plan
FTE	Full time equivalent
FY	Fiscal year
GC	Gas chromatograph
GDMS	Glow discharge mass spectrometry
GET	Geosciences and Environmental Technology
GGs	Geophysics and Global Security
GIS	Geographic information system

GPS	Global positioning system
GRR	Guidance request response
GSA	General Services Area
GWP	Groundwater Project
GWMPM	Groundwater Project Management Program
GWTF	Groundwater treatment facility
GWTS	Groundwater treatment system
HAC	Hazard assessment and control
HAP	Hazardous air pollutants
HAZMAT	Hazardous material
HCAL	Hazards Control Department's Analytical Laboratory
HCCI	Homogeneous charge compression ignition
HCD	Hazards Control Department
HE	High explosives
HEA	Health and Ecological Assessment
HEAF	High Explosives Application Facility
HEDC	High Explosives Development Center
HEDP	High-energy-density physics
HEPA	High-efficiency particulate air (filter)
HEU	Highly enriched uranium
HHI	Health Hazard Index
HIV	Human immunodeficiency virus
HMX	cyclotetramethylenetetranitramine
HOV	High occupancy vehicle
HQ	Hazard quotient
HR	Human Resources
HRA	Health risk assessment
HSD	Health Services Department
HSWA	<i>Hazardous and Solid Waste Amendments</i>
HVAC	Heating, ventilation, and air conditioning
HW	Hazardous waste
HWCA	<i>Hazardous Waste Control Act</i>

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HWM	Hazardous Waste Management Division
ICC	Integrated computing and communications
ICF	Inertial confinement fusion
ICP	Inductively coupled plasma
ICRP	International Commission on Radiological Protection
IDLH	Immediately dangerous to life or health
INEEL	Idaho National Engineering and Environmental Laboratory
INL	Idaho National Laboratory
IQR	Interquartile range
IS/EA	Initial study/environmental assessment
ISCT	Industrial Source Complex Short Team
ISM	Integrated safety management
ISMS	Integrated Safety Management System
ISO	Independent system operator
ISRF	International Security Research Facility
IT	Information technology
ITP	Integrated Technology Project
IWS	Integration work sheet
IWS/SP	Integrated work sheet/safety plan
JCATS	Joint Conflict and Tactical Simulation
L/RWD	Lost/restricted work day
LANL	Los Alamos National Laboratory
LBNL	Lawrence Berkeley National Laboratory
LCF	Latent cancer fatalities
LCW	Low pressure cooling water
LDRD	Laboratory Directed Research and Development
LEDO	Laboratory Emergency Duty Officer
LEPC	Local Emergency Planning Committee
LINAC	Linear accelerator
LLNL	Lawrence Livermore National Laboratory
LLW	Low-level waste
LOEC	Lowest observed effect concentration

LOS	Limit of sensitivity
LPF	Leak path factor
LPT	Lymphocyte proliferation test
LS&T	Laser Science and Technology
LSA	Low specific activity
LSO	Laser Safety Officer
LSO	Livermore Safety Officer
LTAB	Laser and Target Area Building
LWC	Low work day cases
LWD	Lost work days
LWPA	Liquid-waste processing area
LWRP	Livermore Water Reclamation Plant
MAPEP	Mixed Analyte Performance Evaluation Program
MAR	Material at Risk
MCL	Maximum contaminant level
MDC	Minimum detectable concentration
MDD	Materials Distribution Division
MEI	Maximally exposed individual
MLLW	Mixed low-level waste
MM	Modified Mercalli
MMS	Materials Management Section
MOU	Memorandum of understanding
MPL	Maximum permitted level
MRP	Monitoring and Reporting Program
MS	Mass spectrometer
MSDS	Material safety data sheet
MSE	Molten-salt extraction
MSR	Materials and Storage Retrieval
MTBE	Methyl tertiary-butyl ether
MTC	Metropolitan Transit Commission
MWMP	Medical Waste Management Plant
NAAQS	National Ambient Air Quality Standards



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NAI	Non-proliferation, arms control, and international security
NARAC	National Atmospheric Release Advisory Center
NC	Numerical control
NCDC	National Climatic Data Center
NCR	Nonconformance report
NCRP	National Council on Radiation Protection and Measurements
NEPA	<i>National Environmental Policy Act</i>
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NEUMA	Neutron multiplying assembly
NHPA	<i>National Historic Preservation Act</i>
NIF	National Ignition Facility
NIOSH	National Institute of Occupational Safety and Health
NMTP	Nuclear Materials Technology Program
NNSA	National Nuclear Security Administration
NOAA	National Oceanic and Atmospheric Administration
NOD	Notice of deficiency
NOEC	No observed effect concentration
NOI	Notice of intent
NOV	Notice of violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPOC	Non-precursor organic compounds
NRC	Nuclear Regulatory Commission
NRDC	Natural Resources Defense Council
NRHP	National Register of Historic Places
NTS	Nevada Test Site
NWP	Nationwide permit
OAASIS	Occupational Accident/Injury/Illness Analysis Support and Information System
OAB	Optics Assembly Building
OBT	Organically bound tritium
OCRWM	Office of Civilian Radioactive Waste Management
ODS	Ozone-depleting substance

OES	Office of Emergency Services
ORAD	Operations and Regulatory Affairs Division
OSC	Operation Support Center
OSHA	Occupational Safety and Health Administration
OSP	Open space and parks
OU	Operable unit
PA	Programmatic agreement
PAAA	<i>Price-Anderson Amendments Act</i>
PAG	Protective Action Guide
PAM	Preamplifier module
PAT	Physics and Advanced Technologies
PC	Personal computer
PCB	Polychlorinated biphenyl
PCE	Perchloroethylene (or perchloroethene tetrachloroethene)
PCU	Power conditioning unit
PDD	Presidential Decision Directive
PEIS	Programmatic Environmental Impact Statement
PEL	Permit exposure limit
PETN	Pentaerythritoltetranitrate
PG&E	Pacific Gas and Electric
PHA	Public health assessment
pHMS	pH Monitoring Station
PL	Public Law
PM	Performance measurement
PM <sub>10</sub>	Particulate matter less than 10 microns in diameter
PMCL	Primary maximum contaminant level
POC	Precursor organic compounds
POTW	Publicly owned treatment works
PPE	Personal protective equipment
PPOA	Pollution prevention opportunity assessment
PPVS	Plant Performance Verification Series
PQL	Practical quantitation limit

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PSA	Project-specific analysis
PSHA	Probabilistic seismic hazard assessment
PTU	Portable treatment unit
PVC	Polyvinyl chloride
QA	Quality assurance
QC	Quality control
R&D	Research and Development
RAIP	Remedial Action Implementation Plan
RCRA	<i>Resource Conservation and Recovery Act</i> of 1976
RD	Remedial design
RDWP	Remedial Design Work Plan
RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine
rem	Radiation equivalent-man
RF	Radio frequency
RF	Respirable fraction
RG	Risk group
RGD	Radiation-generating device
RHWM	Radioactive and Hazardous Waste Management
RI/FS	Remedial investigation/feasibility study
RL	Reporting limit
RMA	Radioactive Materials Area
RMMA	Radioactive Materials Management Area
ROD	Record of Decision
ROI	Region of influence
ROW	Right of way
RRP	Risk reduction program
RTW	Return to Work Program
RWPA	Reactive waste processing area
RWQCB	Regional Water Quality Control Board
SAA	Streambed alteration agreement
SAAQS	State Ambient Air Quality Standards
SAER	Site Annual Environmental Report

SAM	Scanning auger microprobe
SAR	Safety analysis report
SARA	<i>Superfund Amendment and Reauthorization Act</i> of 1986
SAT	Space Action Team
SBSSMP	Science Based Stockpile Stewardship and Management Program
SCIF	Sensitive Compartmented Information Facility
SDF	Sewer Diversion Facility
SDWA	<i>Safe Drinking Water Act</i>
SEIS	Supplemental Environmental Impact Statement
SEP	Safety and Environmental Protection
SERC	State Emergency Response Commission
SFBR	San Francisco Bay Region
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SHARP	Super High Altitude Research Project
SHPO	State Historic Preservation Officer
SIC	Standard industrial code
SIS	Special isotope separator
SJEHD	San Joaquin Environmental Health Department
SJVUAPCD	San Joaquin Valley Unified Air Pollution Control District
SMC	Senior Management Council
SMCL	Secondary maximum contaminant level
SMS	Sewer Monitoring Station
SNL/CA	Sandia National Laboratories/California
SNM	Special nuclear material
SOP	Standard operating procedures
SOV	Summary of violations
SPCC	Spill Prevention Control and Countermeasure
SRS	Savannah River Site
SRU	Size reduction unit
SSM PEIS	Stockpile Stewardship and Management PEIS
SSP	Stockpile Stewardship Program
SST	Safe secure transport

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SST/SGT	Safe secure trailers/safeguards transport
STP	Site Treatment Plant
STU	Solar treatment unit
SVE	Soil vapor extraction
SWEIS	Site-wide Environmental Impact Statement
SWMU	Solid-waste management unit
SWPA	Solid waste processing area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TATB	Triaminotrinitrobenzene
TBACT	Toxic best available control technology
TBD	To be determined
TBOS	Tetrabutyl orthosilicate
TCA	trichloroethane
TCE	Trichloroethene (or trichloroethylene)
TCLP	Toxicity characteristic leaching procedure
TCP	Traditional cultural properties
TDS	Total dissolved solids
TEEL	Temporary emergency exposure limit
TF	Treatment facility
TIG	Tungsten inert gas
TKEBS	Tetrakis (2-ethylbutyl) silane
TLD	Thermoluminescent dosimeter
TLV	Threshold limit value
TNT	Trinitrotoluene
TOC	Tactical operations center
TOX	Total organic halides
TRAGIS	Transportation Routing Analysis Geographic Information System
TRC	Total reportable cases
TRI	Toxic release inventory
TRU	Transuranic waste
TRUPACT-II	Transuranic Package Transporter-II

TSCA	<i>Toxic Substances Control Act</i>
TSDF	Treatment, Storage, and Disposal Facility
TSF	Terascale Simulation Facility
TSMP	Transportation Systems Management Program
TSS	Total suspended solids
TTO	Total toxic organics
TWA	Time-weighted average
TWMS	Total Waste Management System
UBC	Uniform Building Code
UC	University of California
USACE	United States Army Corps of Engineers
USC	<i>United States Code</i>
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground storage tank
UV-visible-NIR	Ultraviolet-visible-near-infrared
VOC	Volatile organic compound
VTF	Vapor treatment facility
WAA	Waste accumulation area
WAPA	Western Area Power Administration
WDR	Waste discharge requirements
WFO	Work for others
WIPP	Waste Isolation Pilot Plant
WMD	Weapons of mass destruction
WSS	Work Smart Standards
XPS	X-ray photoelectron spectrometer
Zone 7	Alameda County Flood Control and Conservation District, Zone 7

**UNIT OF MEASURE AND ABBREVIATIONS**

acre	ac
billion gallons per year	BGY
centimeters	cm
cubic feet	ft <sup>3</sup>
cubic feet per second	ft <sup>3</sup> /s
cubic meters	m <sup>3</sup>
cubic yards	yd <sup>3</sup>
Curie	Ci
decibel	dB
degrees Celsius	°C
degrees Fahrenheit	°F
feet	ft
gallon	gal
gallons per day	gpd
gram	g
grams per second	g/sec
gravity	<i>g</i>
hectare	ha
Hertz	Hz
hour	hr
kelvin	K
kilogram	kg
kilojoule	kJ
kilometer	km
kilometer per hour	km/hr
kilovolt	kV
kilovoltampere	kVA
kilowatt	kW
kilowatt hour	kWh

liter	L
megajoule	MJ
megavolt-ampere	MVA
megawatt	MW
megawatt hour	MWh
megawatt-electric	MWe
megawatt-thermal	MWt
meter	m
meters per second	m/sec
microcurie	$\mu\text{Ci}$
microcuries per gram	$\mu\text{Ci/g}$
microgram	$\mu\text{g}$
micrograms per cubic meter	$\mu\text{g/m}^3$
micrograms per kilogram	$\mu\text{g/kg}$
micrograms per liter	$\mu\text{g/L}$
micron or micrometer	$\mu\text{m}$
microohms per centimeter	$\mu\text{ohms/cm}$
micropascal	mPa
mile	mi
miles per hour	mph
millicurie	mCi
millicurie per gram	mCi/g
millicurie per millimeter	mCi/ml
milligram	mg
milligram per liter	mg/L
milliliter	ml
millimeters of mercury	mmHg
million	M
million electron volts	MeV
million gallons per day	MGD
million gallons per year	MGY
millirem	mrem



millirem per year	mrem/yr
nanocurie	nCi
nanocuries per gram	nCi/g
part per billion	ppb
part per billion by volume	ppbv
part per million	ppm
particulate matter of aerodynamic diameter less than 10 micrometers	PM <sub>10</sub>
particulate matter of aerodynamic diameter less than 25 micrometers	PM <sub>25</sub>
pascal	Pa
picocurie	pCi
picocuries per gram	pCi/g
picocuries per liter	pCi/L
pound	lb
pounds mass	lbm
pounds per square inch	psi
pounds per year	lb/yr
quart	qt
Roentgen equivalent, man	rem <sup>a</sup>
second	sec
square feet	ft <sup>2</sup>
square kilometers	km <sup>2</sup>
square meters	m <sup>2</sup>

**CONVERSION CHART**

TO CONVERT FROM U.S. CUSTOMARY INTO METRIC			TO CONVERT FROM METRIC INTO U.S. CUSTOMARY		
If you know	Multiply by	To get	If you know	Multiply by	To get
<b>Length</b>					
inches	2.540	centimeters	centimeters	0.3937	inches
feet	30.48	centimeters	centimeters	0.03281	feet
feet	0.3048	meters	meters	3.281	feet
yards	0.9144	meters	meters	1.094	yards
miles	1.609	kilometers	kilometers	0.6214	miles
<b>Area</b>					
square inches	6.452	square centimeters	square centimeters	0.1550	square inches
square feet	0.09290	square meters	square meters	10.76	square feet
square yards	0.8361	square meters	square meters	1.196	square yards
acres	0.4047	hectares	hectares	2.471	acres
square miles	2.590	square kilometers	square kilometers	0.3861	square miles
<b>Volume</b>					
fluid ounces	29.57	milliliters	milliliters	0.03381	fluid ounces
gallons	3.785	liters	liters	0.2642	gallons
cubic feet	0.02832	cubic meters	cubic meters	35.31	cubic feet
cubic yards	0.7646	cubic meters	cubic meters	1.308	cubic yards
<b>Weight</b>					
ounces	28.35	grams	grams	0.03527	ounces
pounds	0.4536	kilograms	kilograms	2.205	pounds
short tons	0.9072	metric tons	metric tons	1.102	short tons
<b>Temperature</b>					
Fahrenheit (°F)	subtract 32, then multiply by 5/9	Celsius (°C)	Celsius (°C)	multiply by 9/5, then add 32	Fahrenheit (°F)
Kelvin (K)	subtract 273.15	Celsius (°C)	Celsius (°C)	add 273.15	Kelvin (K)

*Note: 1 sievert = 100 rems*